Records of All-Sky Camera Photographs at Syowa Station, Antarctica in 1980

National Institute of Polar Research

This report gives information on all-sky photograph data obtained at Syowa Station in 1980. Copies of the data are available to users on request. The request should be addressed to:

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1. Location of observatory

Station name	Geographic		Geomagnetic		Height
	Latitude	Longitude	Latitude	Longitude	15 m above sea level
Syowa	69°00'S	39°35'E	-70.0°	79.4°	

2. Observer

Mr. Yutaka KATSUTA: National Institute of Polar Research

3. Compiler

Mr. Yutaka KATSUTA and Miss Keiko KOKUBUN: National Institute of Polar Research

4. Instrumentation

A 35 mm cine-pulse camera with a fish-eye lens of f/1.4 was used.

The observation was carried out during clear nights between March 21 and October 10, 1980. In general, six photographs were taken every minute. The exposure time of each photograph was 7 seconds. During very low auroral activities, photographing rate was reduced to two frames per minute. The film used was Kodak 35 mm 4-X with the ASA number of 800.

5. Observation

The date and hour of the observations is given in Fig. 1 and Table 1. Symbols in Fig. 1 are as follows:

Dark area: All-sky camera was operated.

Blank area: Not operated due to bad weather conditions.

The underlines for the three-hourly K-indices in Table 1 represent the period in which the all-sky camera was operated. The clock in the all-sky photographs is indicates UT (UT = LT - 3 hours).

The classification of the K-indices at Syowa Station is as follows:

K-index:				
	0	0	<	25 nT
	1	25	<	50 nT
	2	50	<	100 nT
	3	100	<	200 nT
	4	200	<	350 nT
	5	350	<	600 nT
	6	600	<	1000 nT
	7	1000	<	1660 nT
	8	1660	<	2500 nT
	9	more than 2500 nT		

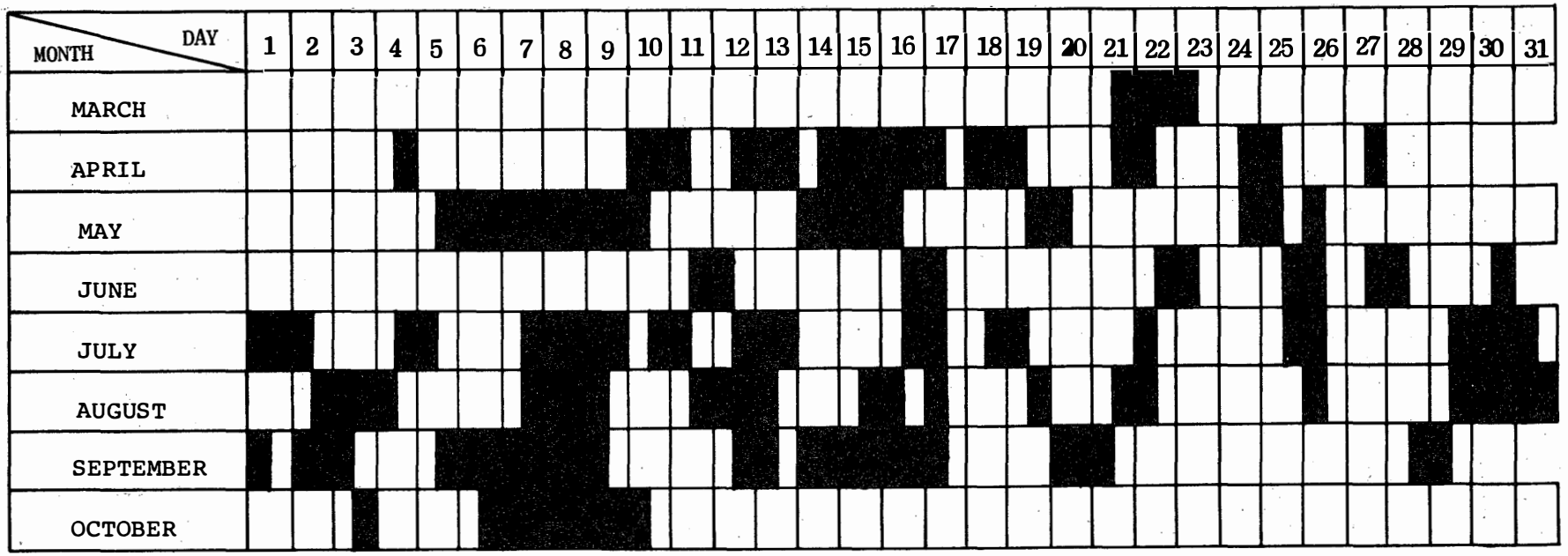

Fig. 1. Days of observation by 35 mm all-sky camera in 1980.

Table 1. Hours of operation of the 35 mm all-sky camera at Syowa Station in 1980.

Date	Hours (Universal Time)			K-Index	
Mar. 21			$17^h43^m00^s$	2331	2344
22	$-01^h00^m37^s$		22 37 00	2341	2314
23	− 01 29 37			2300	0000
Apr. 4		17 55 00	− 23 03 37	0011	0020
10	00 40 00	− 01 08 37	21 29 00	3542	0110
11	− 03 50 37			3131	1354
12			20 08 00	4431	1115
13	− 01 15 37	18 32 00	− 22 49 37	4341	0122
14			22 22 00	2200	0125
15	− 02 44 37		22 37 00	4310	0244
16	− 01 59 37		23 35 00	3321	0214
17	− 00 45 40			5510	0012
18	02 40 00	− 03 14 37	21 50 00	1200	0002
19	− 03 00 37			0000	0013
21			20 32 00	2100	0013
22	− 01 05 37			2110	0013
24			23 55 00	3300	0013
25	− 03 34 37			3211	1000
27		22 59 00	− 23 17 37	0000	0004
May 5			23 14 00	0010	0023
6	− 04 27 37		20 02 00	3321	2014
7	− 01 18 52		21 50 00	0000	0122
8	− 04 35 37		23 47 00	3220	0001
9	− 04 21 37		22 58 00	3221	1024

Date		Hours (Universal Time)			K-Index	
		h m s				
May	10	— 04 32 37			4000	0000
	14	03 10 00	— $04^h50^m37^s$	$18^h04^m00^s$	4511	0224
	15	— 00 49 52		21 35 00	1010	0001
	16	— 04 41 52			2000	0000
	19			18 01 00	0000	1021
	20	— 01 49 52			2200	0000
	24			23 54 00	3000	1333
	25	— 00 06 52			2244	2103
	26	01 04 00	— 03 26 52		3110	0003
June	11			18 19 00	5444	3356
	12	— 02 22 52			4433	2245
	16			22 24 00	0100	0212
	17	— 00 19 52			1000	0000
	22			23 14 00	2100	0002
	23	— 04 52 52			2100	0003
	25			21 47 00	3220	0003
	26	— 03 54 37			4100	1423
	27			22 44 00	2100	0002
	28	— 03 54 37			2000	0001
	30			17 50 00	3000	1012
July	1	— 04 53 37		23 12 00	2100	0001
	2	— 04 52 37			0000	0001
	4			21 17 00	0000	0003
	5	— 03 56 37			3411	0222
	7		19 25 00	— 22 18 37	4312	1132
	8	00 30 00	— 05 16 37	20 58 00	5321	1344

Date	Hours (Universal Time)			K-Index	
	h m s	h m s	h m s		
July 9	01 37 37	18 57 00 —	21 17 37	3311	0010
10			23 58 00	0000	0001
11	— 06 00 37			3300	0113
12			23 12 00	3000	0002
13	— 05 01 52	17 53 00 —	22 55 52	2320	0000
16			23 21 00	2100	0001
17	— 05 56 37			2100	0012
18			19 49 00	3200	1155
19	— 00 23 57			4430	0003
22	01 18 00 —	04 44 57		2310	0002
25			18 06 00	1101	0356
26	— 04 52 47			7311	0022
29			22 54 00	0100	0013
30	— 04 52 37		21 50 00	3201	0003
31	— 04 59 37			2211	1002
Aug. 2			21 03 00	0000	1023
3	— 04 30 37		23 03 00	4442	2101
4	— 04 27 52			1100	1001
7			20 59 00	3311	1024
8	— 04 20 52		21 26 00	3200	0002
9	— 04 01 52			1000	0003
11			21 12 00	1010	0012
12	— 03 56 52		22 51 00	5100	0001
13	— 03 59 57			1000	0102
15			22 25 00	2000	0001
16	— 03 56 52			2200	2321

Date	Hours (Universal Time)	K-Index
Aug. 17	$03^h 11^m 00^s - 03^h 58^m 52^s$	0000 0032
19	$20\ 58\ 00 - 23^h 07^m 57^s$	4311 1133
21	$23\ 20\ 00$	4321 0000
22	$-03\ 58\ 52$	2310 0145
26	$00\ 48\ 00 - 03\ 39\ 52$	4410 0002
29	$21\ 20\ 00$	0000 0022
30	$-03\ 00\ 52$; $17\ 56\ 00 - 19\ 43\ 52$; $22\ 27\ 00$	1300 0011
31	$-03\ 55\ 52$; $21\ 17\ 00$	3300 0002
Sep. 1	$-03\ 00\ 52$	3211 0000
2	$00\ 27\ 00 - 03\ 00\ 52$; $22\ 22\ 00$	2200 0000
3	$-03\ 30\ 52$	0000 0344
5	$16\ 47\ 00$	3231 1243
6	$-02\ 53\ 57$; $22\ 28\ 00$	2110 0003
7	$-03\ 00\ 57$; $21\ 49\ 00$	2201 0134
8	$-01\ 55\ 57$; $21\ 21\ 00$	3200 0003
9	$-01\ 56\ 57$	2210 0313
12	$21\ 10\ 00$	2242 1335
13	$-01\ 04\ 57$	2432 2111
14	$00\ 53\ 00 - 02\ 33\ 57$; $22\ 15\ 00$	4400 0004
15	$-02\ 23\ 37$; $17\ 33\ 00$	2100 0013
16	$-02\ 31\ 37$; $21\ 32\ 00$	0110 0033
17	$-00\ 36\ 52$	4412 1104
20	$00\ 32\ 00 - 02\ 27\ 52$; $23\ 17\ 00$	3300 0001
21	$-01\ 58\ 37$	1000 0000
28	$21\ 56\ 00$	1000 0022
29	$-01\ 27\ 37$	1110 0042

Date	Hours (Universal Time)		K-Index	
		h m s		
Oct. 3		20 15 00 — 23 58 37	0000	0013
6		18 43 00	3322	0113
	h m s			
7	— 00 56 37	22 13 00	4311	1012
8	— 01 05 37	20 36 00	2211	1023
9	— 01 05 37	19 47 00	4222	0123
10	— 00 24 37		4310	1236